REMARKS

The application has been amended to place the application in condition for allowance at the time of the next Official Action.

The specification has been amended to provide that the transition between the first and second circumferential planes is a buckle. Claim 1 as originally filed provided that the change from the circumferential wall to the flank (between first and second circumferential planes) is via a buckle or curve. Accordingly, the amendment to the specification does not present new matter.

Claims 21-43 were previously pending in the application. New claims 44-48 are added. Therefore, claims 21-48 are presented for consideration.

Claims 41 and 43 are amended to address the claim objections noted in the Official Action.

Claims 41 and 42 are amended to address the 35 USC §112, first paragraph written description requirement rejections noted in the Official Action by changing the recited "bolt at a point changes" to "bolt changes direction at a substantially V-shaped portion" to avoid any perceived inconsistencies with a "point" being convex or concave.

Claims 24, 26, 34, and 36 are amended to address the 35 USC §112, second paragraph rejections noted in the Official Action

by putting the "preferably" limitations into dependent claims. Please note that the Official Action indicated that claim 29 included a "preferably" limitation. However, such limitation was found in claim 26 and is addressed.

Claims 21-41 and 43 are rejected under the judicially created doctrine of double patenting over claims 1-28 of U.S. Patent No. 6,712,570.

A terminal disclaimer is filed herewith to obviate the double patenting rejection.

Claims 41 and 43 are rejected as being anticipated by KIBBLEWHITE 5,131,276. This rejection is respectfully traversed.

Claim 41 provides that the proximal head end is adapted to removably receive a sensor for measuring a distance between the measurement planes.

Figure 8 of KIBBLEWHITE (noted in the Official Action) in conjunction with column 11, lines 57-58, disclose that the transducer 85 is formed on the end surface 87 of fastener 84. KIBBLEWHITE at column 8, lines 5-7, and column 8, lines 29-31, teach growing a piezoelectric film for transducers and permanently mechanically and electrically connecting electrodes to the bolt fastener of KIBBLEWHITE.

Such permanently connected measurement sensor or a measurement sensor that is formed on (by growing) the fastener does not meet the recited limitation of a bolt wherein the

proximal head end is adapted to detachably receive a sensor for measuring a distance between the measurement planes. One of ordinary skill in the art would understand that the permanently attached sensor of KIBBLEWHITE would not be detachable.

In addition, claim 41 provides that proximal head end of the bolt detachable receives the sensor, not the distal insertion end of the fastener as seen in Figure 8 of KIBBLEWHITE.

Claim 43 depends from claim 41 and further defines the invention and is also believed patentable over KIBBLEWHITE.

Claims 21-25, 27-35, 37-41 and 43 are rejected as unpatentable over DAF standard prod 9257 in view of KIBBLEWHITE. This rejection is respectfully traversed.

The proposed combination of references do not teach or suggest a measurement plane at the proximal head end that is located on and formed by the proximal outer end plane. The references also fail to suggest that the proximal head end is adapted to detachably receive a sensor for measuring a distance between measurement planes, as recited in claim 21.

KIBBLEWHITE at column 7, lines 41-48 teach a smooth end surface that is used to grow a piezoelectric element 21 formed directly on the end surface using a vapor deposition technique. Column 8, lines 29-33 of KIBBLEWHITE further disclose a second electrode 23 permanently connected to the piezoelectric element 21 to form a transducer 19. Accordingly, KIBBLEWHITE teaches a

permanently preattached transducer that is formed at the end surface of the head end of the bolt such that the end of the sensor forms the proximal outer end plane of the bolt of KIBBLEWHITE. This permanently attached sensor is neither detachable nor at the proximal outer end plane.

The DAF standard teaches providing the head end of the bolt with a recessed measurement plane. The recessed measurement plane of the DAF standard functions to decrease the size of the end plane and thereby increase the lifespan of the bolt press used to manufacture the bolt of the DAF standard.

MPEP §2143.01 provides that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

The principle of operation of KIBBLEWHITE is to use a measurement sensor that is permanently formed on a fastener. Modifying the fastener of KIBBLEWHITE so that the proximal head end is adapted to detachably receive a sensor for measuring a distant measurement between the measurement planes, would change the principle of operation of KIBBLEWHITE and thus the teachings of the references are not sufficient to render the claims *prima facie* obvious.

In addition, in order to modify the DAF standard bolt to have a flat measurement plane, the recess of the DAF bolt would have to be removed which would decrease the lifespan of the bolt press.

The prior art must be considered in its entirety including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed Cir. 1983), *cert denied*, 469 U.S. 851 (1984).

The DAF Standard teaches away from using a flat surface because a recessed surface increases the lifespan of the bolt press. One of ordinary skill would want to have an increased bolt press lifespan and thus would not be motivated to make modifications to the recessed surface to reduce the lifespan of the bolt press.

Since there is neither motivation to make the permanently attached sensor of KIBBLEWHITE detachable nor motivation make the recessed surface of the DAF standard flat, the proposed combination of references would not render obvious claim 21.

Claims 22-25 and 27-30 depend from claim 21 and further define the invention and are also believed patentable over the proposed combination of references.

Claim 31 provides that the proximal head end is structured and arranged to detachably receive a sensor for measuring a distance between the measurement planes. Claim 31 also provides that the proximal head end has an outermost proximal end plane oriented perpendicular to a longitudinal axis wherein the measurement plane at the proximal head end is located on and formed by the outermost proximal end plane. The analysis above regarding claim 21 is equally applicable to claim 31. Claims 32-35 and 37-40 depend from claim 31 and further define the invention and are also believed patentable over the cited prior art.

Claim 41 also provides that the proximal head end is adapted to detachably receive a sensor for measuring a distance between the measurement planes. Claim 41 further provides that the proximal head is an outermost proximal end plane and that the measuring plane at the proximal head end is located on the outermost proximal end plane. The analysis above regarding claim 21 is also applicable to claim 41.

Claim 43 depends from claim 41 and further defines the invention and is also believed patentable over the cited prior art.

Claims 26 and 36 are rejected as unpatentable over DAF standard in view of KIBBLEWHITE and further in view of BROWN 2,778,265. This rejection is respectfully traversed.

BROWN is only cited for the teaching of a third circumferential surface at an angle of 35° contiguously provided with a thread. BROWN does not teach or suggest that the proximal head end is adapted to detachably receive a sensor for measuring a distance between the measurement planes. BROWN also fails to suggest that the proximal head end has an outermost proximal end plane oriented perpendicular to the longitudinal axis and that the measurement plane at the proximal head end is located on or formed by an outermost proximal end plane as recited in claims 21 and 31.

As set forth above, neither the DAF standard nor KIBBLEWHITE teach or suggest these features. Since claims 26 and 36 depend from claims 21 and 31, respectively and further define the invention, the proposed combination of references would not render obvious claims 26 and 36.

New claims 44-47 correspond to the "preferably" language of claims 24, 26, 34, and 36, and are also believed patentable over the cited prior art.

New claim 48 provides that an entirety of a surface of the bolt along the proximal outer plane is available for measurement.

In both the bolt of Figure 1 and 2 of KIBBLEWHITE and the DAF standard bolt, the size of the surface used for the ultrasonic measurement is smaller than the size of the end plane of the head end.

Since the bolt as recited in claim 48 has an entirety of a surface of the head end available for measurement, the sensor that will be placed against this proximal end surface can be selected to contact anywhere along the entire end surface of the head end, resulting in measurements that are more reliable.

In addition, the presence of the measurement plane of the exposed end surface of the head end provides an advantage in that it is possible to integrate the transducer in a tool drive so as to enable ultrasonic measurement during the fastening of the bolt.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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